Southern California Gas Company and San Diego Gas & Electric Company

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Natural Gas Working Group Meeting

Sacramento, California
June 7, 2012

Topics

- Public Purpose Program Rate Impact
- Landfill Gas
- *2012 California Gas Report* Demand Forecast
- U.S. LNG Exports
- SoCalGas Southern System Issues
- Summer Gas Bill Forecast

SoCalGas
Historical Public Purpose Program Surcharge Costs

Program Surcharge Costs, $millions	2007	2008	2009	2010	2011	% increase 2007 to 2011
Research, Development and Demonstration	$9.5	$11.4	$13.0	$13.4	$12.3	**30%**
Energy Savings Assistance Program	$33.3	$29.6	$49.6	$76.9	$78.3	**135%**
Energy Efficiency	$60.9	$77.1	$86.4	$71.7	$66.0	**8%**
California Alternate Rates for Energy (CARE) program	$111.2	$110.6	$123.2	$114.0	$130.6	**18%**
Bureau Of Equalization	$0.2	$0.2	$0.2	$0.3	$0.3	**53%**
PPP Total	$215.2	$228.9	$272.4	$276.2	$287.6	**34%**

•The Public Purpose Program Surcharge currently ranges from15% to 197% of the transportation rate.

$/therm	Class Average Transport Rate	Public Programs Surcharge Rate	Public Programs Surcharge Rate as % of Transport Rate
1) Residential	$0.544	$0.082	15%
2) Core Commercial & Industrial	$0.299	$0.070	23%
3) Natural Gas Vehicles	$0.069	$0.031	45%
4) Noncore Commercial & Industrial - Distribution	$0.068	$0.035	52%
5) Noncore Commercial & Industrial - Transmission	$0.018	$0.035	197%

SoCalGas
Historical Public Purpose Program Surcharge Costs, Cont.

- Costs recovered through the surcharge increased over $70 million, or 34%, from 2007 to 2011. This was mainly due to increases of $45 million in the Energy Savings Assistance Program and, $20 million in the CARE program.
- The Energy Savings Assistance Program costs increased due to the CPUC's increased goals and budgets (D.08-22-031) for the 2009-2011 program cycle.
- The SoCalGas goal for homes treated increased from 137,400 during the period 2006-2008 to 400,278 for the 2009-2011 program cycle.
- The California Alternate Rate for Energy (CARE) program costs increased due to the CPUC's goal (D.08-11-031) requiring utilities to enroll 90% of the estimated eligible customers.
- CARE enrollments increased from 1,265,783 in 2006 (72% of the estimated eligible population) to 1,716,495 (93% of the estimated eligible population) in 2011.

SDG&E Gas
Historical Public Purpose Program Surcharge Costs

Program Surcharge Costs, $millions	2007	2008	2009	2010	2011	% increase 2007 to 2011
Research, Development and Demonstration	$0.9	$1.1	$1.3	$1.3	$1.3	**32%**
Energy Savings Assistance Program	$6.7	$6.7	$9.9	$9.9	$9.5	**43%**
Energy Efficiency	$6.8	$7.4	$11.5	$13.9	$20.7	**206%**
California Alternate Rates for Energy (CARE) program	$13.1	$12.4	$14.7	$12.4	$14.1	**8%**
Bureau Of Equalization	$0.0	$0.0	$0.0	$0.0	$0.0	**61%**
PPP Total	$27.5	$27.6	$37.5	$37.6	$45.6	**66%**

• The Public Purpose Program Surcharge currently ranges from 13% to 595% of the transportation rate.

$/therm	Class Average Transport Rate	Public Programs Surcharge Rate	Public Programs Surcharge Rate as % of Transport Rate
1) Residential	$0.592	$0.080	13%
2) Core Commercial & Industrial	$0.191	$0.118	61%
3) Natural Gas Vehicles	$0.066	$0.038	57%
4) Noncore Commercial & Industrial - Distribution	$0.122	$0.111	91%
5) Noncore Commercial & Industrial - Transmission	$0.019	$0.111	595%

SDG&E Gas
Historical Public Purpose Program Surcharge Costs, Cont.

- Costs recovered thru the surcharge increased about $18 million, or 66%, from 2007 to 2011. This was mainly due to increases of $14 million in the Energy Efficiency and, $3 million in the Energy Savings Assistance Program.
- The Energy Efficiency Program costs increased due to the increase in EE gas goals and the required additional programs/activities designed to meet the PUC Energy Efficiency Strategic Plan adopted in 2009 for 2010 onwards implementation.
- The Energy Savings Assistance Program costs increased due to the CPUC's increased goals and budgets (D.08-22-031) for the 2009-2011 program cycle.
- The SDG&E goal for homes treated increased from 33,762 during the period 2006-2008 to 61,152 for the 2009-2011 program cycle.

Landfill Gas Evaluation for Acceptance Into the SoCalGas/SDG&E Pipeline System

Outstanding Issues and Ongoing Work

- **Risk Assessment Activities**:
  - Landfill gas contains unknown constituents. Identity constituents and concentrations in Gas Technology Institute (GTI) Landfill Study that will be an issue, and test extensively prior to potential acceptance.
  - Assess risk to health and safety, pipeline integrity, pipeline operations, and end uses. Siloxane decomposition study at GTI and USC, Odor Masking, Corrosion study, Pipeline component study.

- **Risk Mitigation Measures:**
  - Find real-time monitors for Vinyl Chloride and Siloxanes. Determine acceptable test methods for Biologicals and Siloxanes.
  - Evaluate removal systems (gas conditioning technologies) for biologicals and siloxanes.

Landfill Gas Evaluation for Acceptance Final Steps

Issues

- **Law**: No landfill gas that contains chemicals known to cause cancer or reproductive toxicity is allowed to enter utility pipeline systems and must be test twice a month for such chemicals.
- Establishment of limit (s) for trace constituents
- SCG Rule 30 – No Landfill Gas currently accepted in the SCG pipeline system.

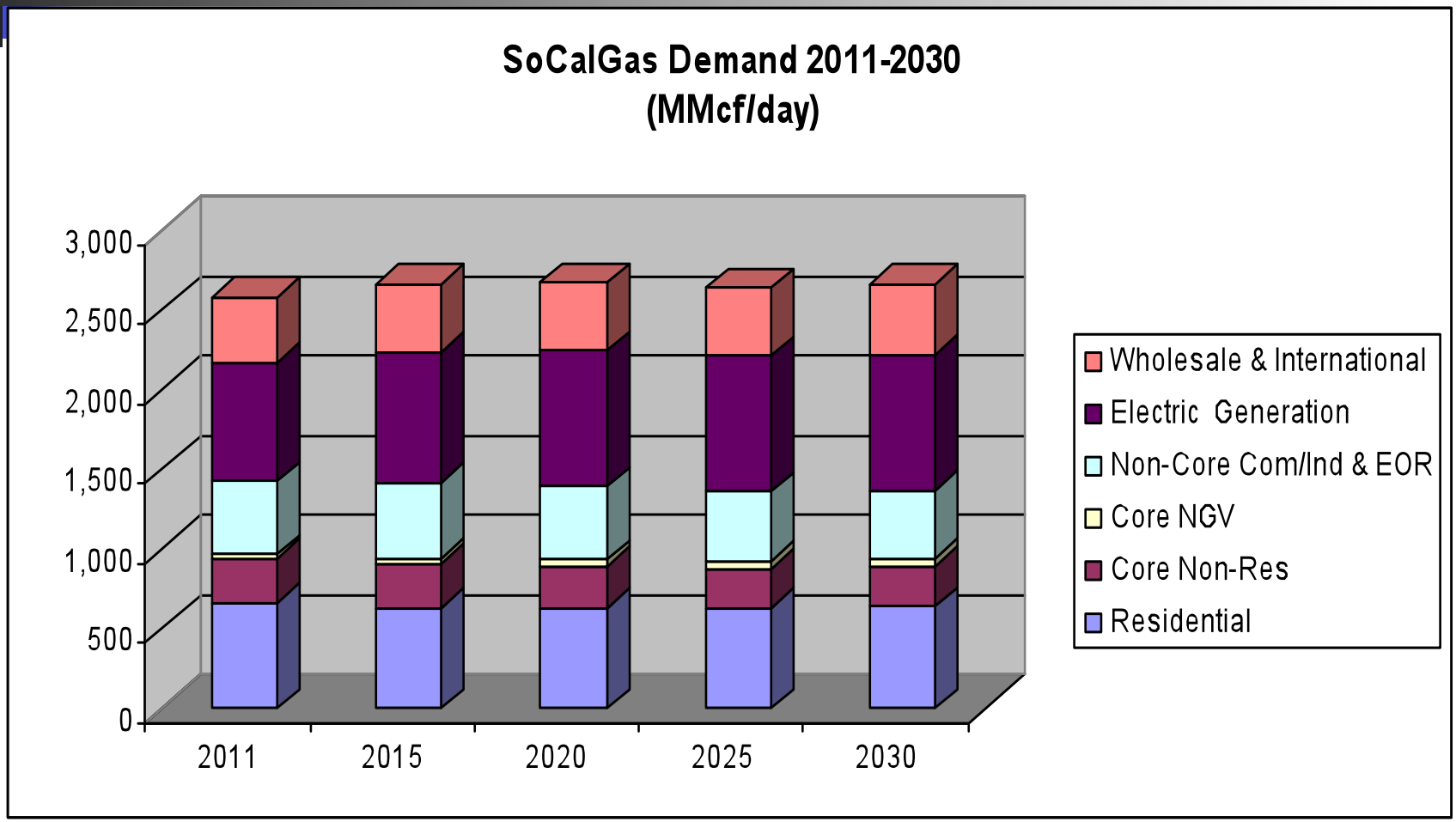
Deliverables

(by 12/2012 or sooner)

- Test plan for all potential hazards.
- Incorporate limits into test and monitoring plan.
- Evaluate the removal of Landfill gas prohibition from Rule 30.
- Change Prop 65 Notice to include new chemicals.

AB1900 (Gatto)	**Renewable Energy Resources: Biomethane** - This bill would require the California Public Utilities Commission (CPUC) to develop reasonable, prudent, and minimally restrictive testing protocols for gas collected from a solid waste landfill that is to be injected into a common carrier pipeline to determine if the gas contains chemicals known to the state to cause cancer or reproductive toxicity and would require a gas corporation to accept biomethane into its pipeline, provided the biomethane meets the heating and purity requirements established by the CPUC.

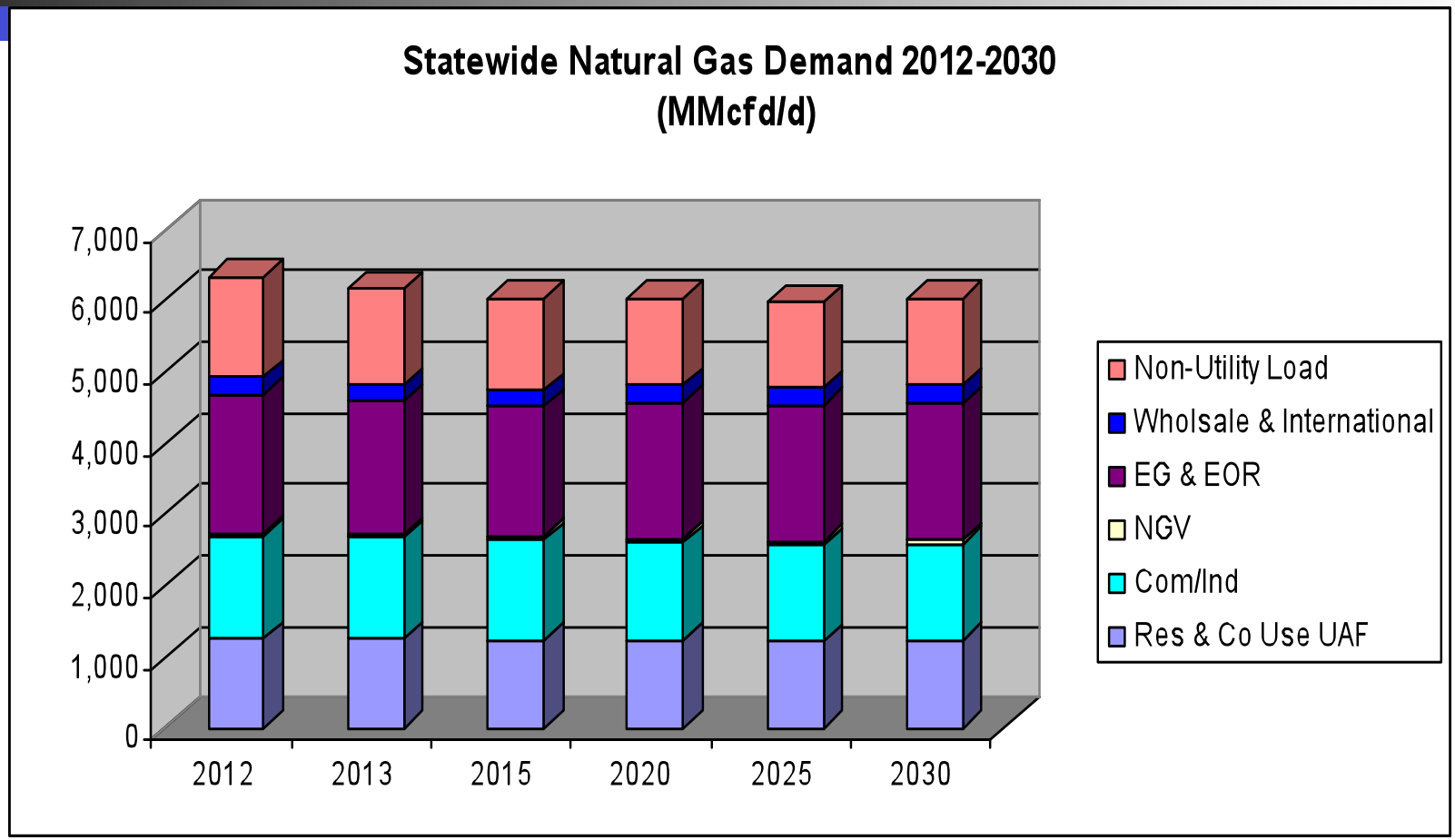
The SoCalGas draft *2012 California Gas Report* forecast projects a slight 3% demand increase over the entire 2012-2030 forecast period.



SoCalGas draft *2012 California Gas Report* Demand Forecast, Cont.

Year (MMcf/d)	2011	2015	2020	2025	2030
Residential	660	636	634	631	641
Core Non-Res	281	272	263	251	251
Core NGV	28	33	40	46	52
Non-Core Com/Ind & EOR	456	481	456	430	424
Electric Generation	744	811	856	854	853
Wholesale & International	411	427	421	429	439
Total	2,580	2,661	2,669	2,641	2,660

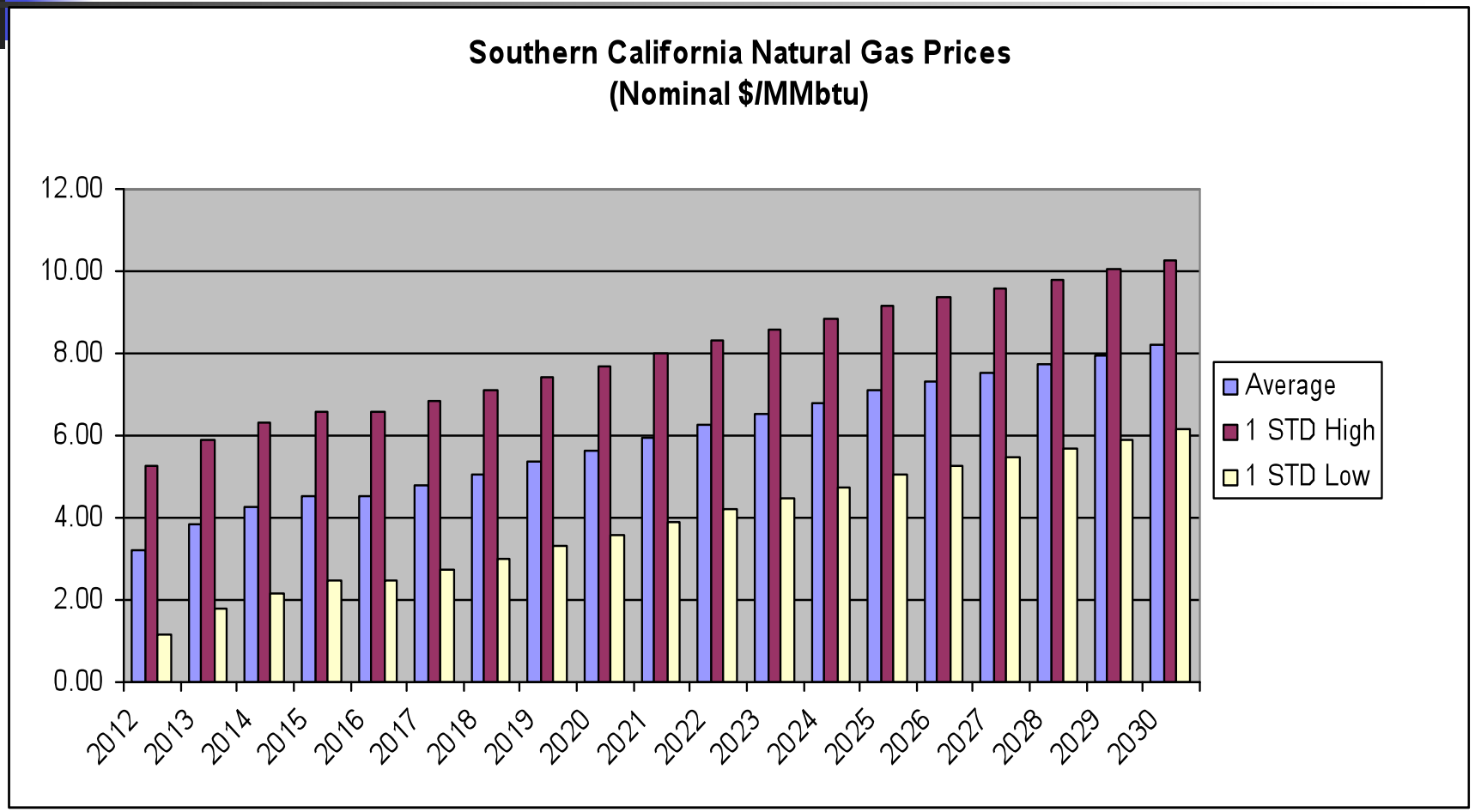
The statewide draft *2012 California Gas Report* forecast projects a slight 0.06% annual demand decrease over the 2012-2030 forecast period.



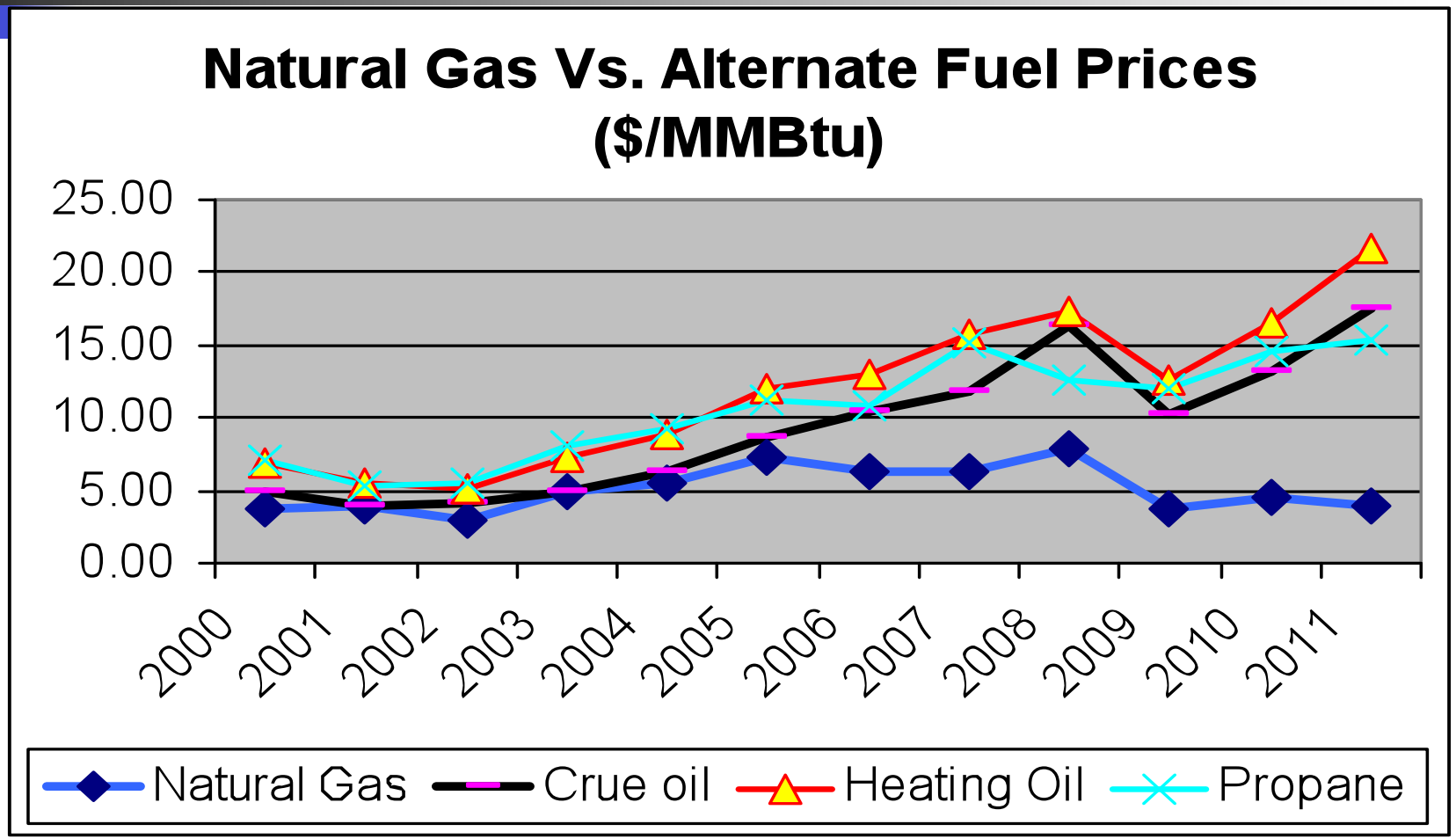
Statewide draft *2012 California Gas Report* forecast, Cont.

Statewide Natural Gas Demand (MMcfd)						
Year	**2012**	**2013**	**2015**	**2020**	**2025**	**2030**
Res & Co Use UAF	1,257	1,245	1,230	1,231	1,225	1,236
Com/Ind	1,434	1,426	1,417	1,377	1,345	1,344
NGV	36	37	40	47	54	60
EG & EOR	1,954	1,871	1,820	1,908	1,912	1,915
Wholesale & International	237	237	238	239	244	250
Non-Utility Load	1,409	1,342	1,279	1,220	1,193	1,226
Total	**6,325**	**6,159**	**6,025**	**6,021**	**5,972**	**6,031**

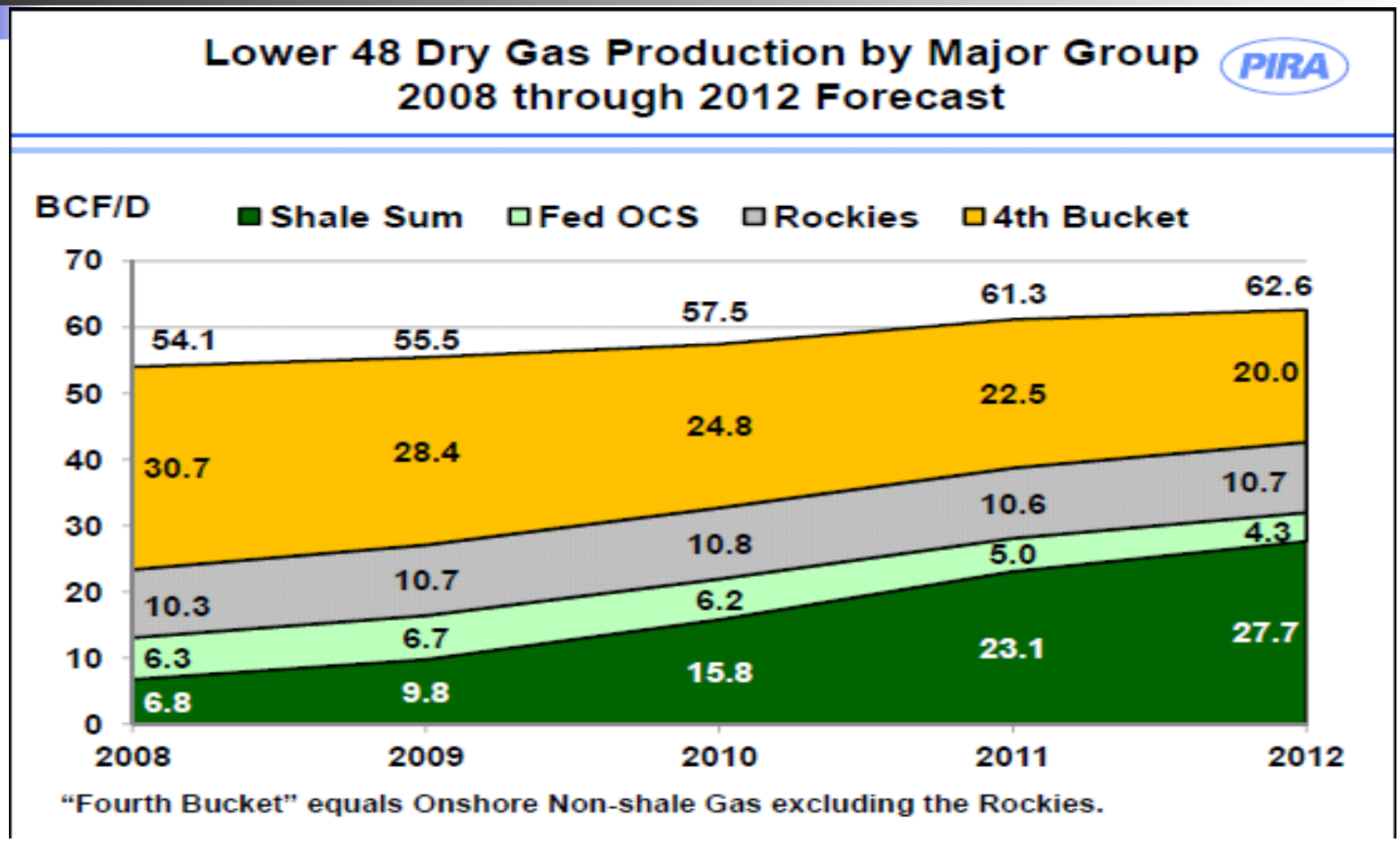
Natural Gas Prices will likely continue to be volatile in the future.



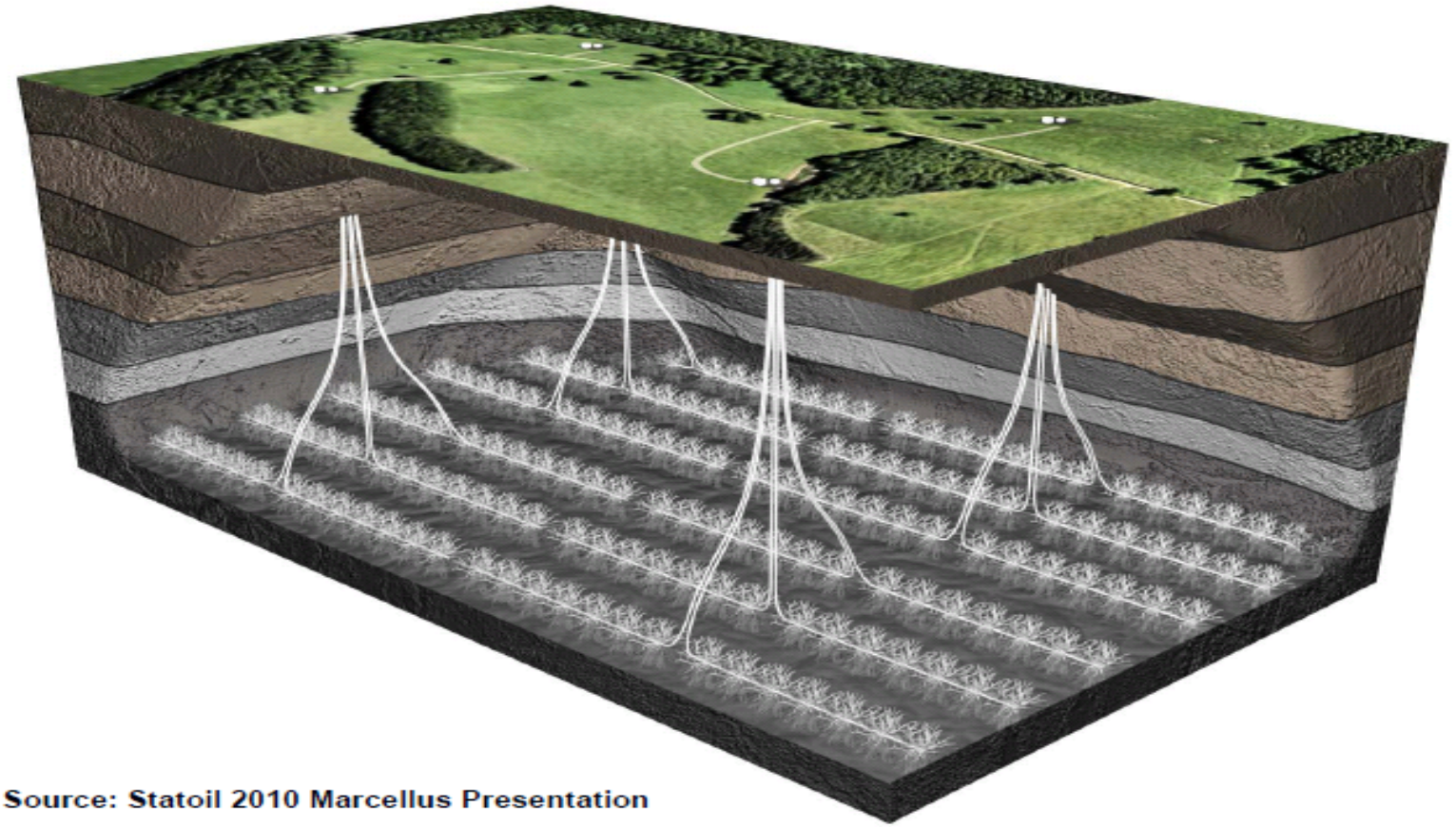
Crude oil and petroleum product prices have diverged significantly from natural gas prices since 2000 on a $/MMbtu basis making LNG exports economic because LNG prices internationally are tied to crude oil prices.



Increased U.S. Natural Gas Production from Shale Plays has Depressed Prices Making LNG Exports Economic



Horizontal Shale Gas Pad Drilling: Extremely Productive and Efficient



Source: Statoil 2010 Marcellus Presentation

LNG Export Issues and Proposals

Company	Location	Proposed Capacity	Expected Operation
Cheniere Energy	Sabine Pass, Louisiana	2.0 Bcf/d	2015
Sempra Energy	Hackberry, Louisiana	1.7 Bcf/d	2016
ConocoPhillips	Freeport, Texas	1.8 Bcf/d	2017
Dominion	Cove Point, Maryland	1.0 Bcf/d	2016
Total		6.5 Bcf/d	

- These LNG export proposals have been approved for LNG exports to countries with which the U.S. has Free Trade Agreements (FTA). All four requested U.S. Government approval for exports to non-FTA counties.

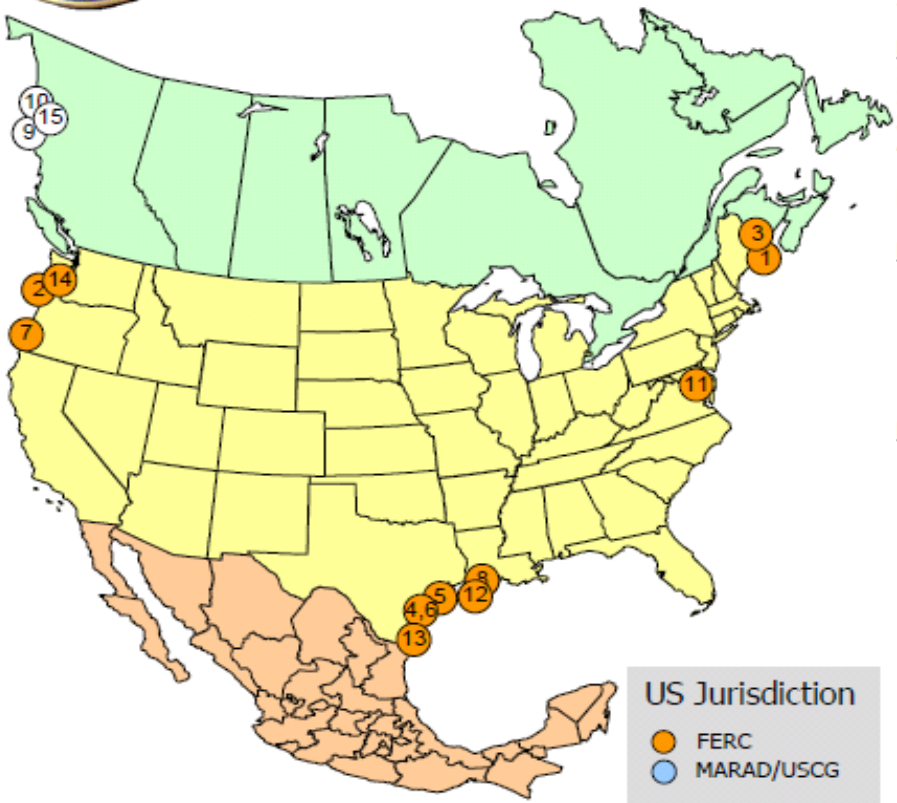
LNG Export Issues and Proposals, Cont.

- **So far, only Cheniere Energy's Sabine Pass terminal in Louisiana has been approved by DOE to export to both Free Trade Agreement and non-FTA countries.**
- **Total approved and proposed unapproved LNG export capacity exceeds 13.7 Bcfd.**
- With Japan shutting down their nuclear generation stations, Japan is expected to increase LNG imports significantly.
- US Government is negotiating with Japan to increase U.S. LNG exports to Japan.
- In a new LNG export development, **Excelerate Energy plans** to set up the first **floating liquefaction facility** in the U.S. to be deployed in Port Lavaca, situated between Galveston and Corpus Christi on the Texas Gulf Coast.

Total U.S. Approved and Unapproved LNG Export Proposals' Capacity Exceeds 13.7 BCF/Day

North American LNG Import/Export Terminals

Proposed/Potential



Import Terminal

PROPOSED TO FERC

1. **Robbinston, ME:** 0.5 Bcfd (Kestrel Energy - Downeast LNG)
2. **Astoria, OR:** 1.5 Bcfd (Oregon LNG)
3. **Calais, ME:** 1.2 Bcfd (BP Consulting LLC)
4. **Corpus Christi, TX:** 0.4 Bcfd (Cheniere – Corpus Christi LNG)

Export Terminal

PROPOSED TO FERC

5. **Freeport, TX:** 1.8 Bcfd (Freeport LNG Dev/Freeport LNG Expansion/FLNG Liquefaction)
6. **Corpus Christi, TX:** 1.8 Bcfd (Cheniere – Corpus Christi LNG)
7. **Coos Bay, OR:** 0.9 Bcfd (Jordan Cove Energy Project)
8. **Lake Charles, LA:** 2.4 Bcfd (Southern Union - Trunkline LNG)

PROPOSED CANADIAN SITES IDENTIFIED BY PROJECT SPONSORS

9. **Kitimat, BC:** 0.7 Bcfd (Apache Canada Ltd.)
10. **Douglas Island, BC:** 0.25 Bcfd (BC LNG Export Cooperative)

POTENTIAL U.S. SITES IDENTIFIED BY PROJECT SPONSORS

11. **Cove Point, MD:** 1.0 Bcfd (Dominion – Cove Point LNG)
12. **Hackberry, LA:** 1.7 Bcfd (Sempra – Cameron LNG)
13. **Brownsville, TX:** 2.8 Bcfd (Gulf Coast LNG Export)
14. **Astoria, OR:** 1.25 Bcfd (Oregon LNG)

POTENTIAL CANADIAN SITES IDENTIFIED BY PROJECT SPONSORS

15. **Prince Rupert Island, BC:** 1.0 Bcfd (Shell Canada)

As of April 26, 2012

Office of Energy Projects

Currently U.S. Natural Gas Prices are far below prices in Europe, Asia and So. America because world natural gas prices are generally tied to oil prices.

- U.S. Henry Hub $2.50/MMbtu
- Japan $13-$15/MMbtu
- Korea $13-$15/MMbtu
- Europe $9.30-$11/Mmbtu
- South America $9.00-$11/MMbtu
- Differential US-World $6.50 to $12.50/MMbtu
- Crude Oil $100/BBl $17/MMBtu

Example LNG Export Economics

Long Term Cost in U.S. Natural Gas	$5.00/MMbtu
Liquefaction Cost	$1.20/MMbtu
Transport Cost to Europe from U.S. Gulf	$1.00/MMbtu
Re-gasification Cost	$0.50/MMbtu
Total U.S. Cost to Europe	**$7.70/MMbtu**
Cost of Natural gas in Europe	$9.30-$11/MMbtu
Margin in Europe	**$1.60-3.30/MMbtu**

Long Term Cost in U.S. Natural Gas	$5.00/MMbtu
Liquefaction Cost	$1.20/MMbtu
Transport Cost to Asia from U.S. Gulf	$1.90/MMbtu
Re-gasification Cost	$0.50/MMbtu
Total U.S. Cost to Asia	**$8.60/MMbtu**
Cost of Natural Gas in Asia	$13-$15/MMbtu
Margin in Asia	**$4.40-6.40/MMbtu**

LNG Export Issues

Opponents to LNG Exports

- **U.S. Energy Information Administration report released in January, said exporting surplus U.S. natural gas could add as much as 9 percent a year to prices of the fuel for consumers and industry over the next two decades, if all pending applications were approved.**
- **U.S. chemical and fertilizer companies oppose LNG exports to keep their feedstock gas costs low.**
- **The competitiveness of natural-gas intensive U.S. companies relative to their counterparts is likely to remain strong, given the large differential between projected U.S. gas prices and oil prices, which are the basis for industrial feedstock by competitor countries.**
- **Consumer advocates oppose LNG exports because they would increase consumers' gas bills.**

LNG Export Issues, Cont.

Proponents of LNG Exports

- **LNG exports would increase the dollar value of U.S. exports helping our balance of payments.**
- **LNG exports should not be restricted with countries with which the U.S. has a Free Trade Agreement.**
- **Trade should not be restricted because that misallocates resources in the world economy.**
- **U.S. producers say that higher natural gas prices are needed to continue to develop U.S. natural gas resources.**

Southern California Gas Company's Southern System Constraints

- **Deliveries at Blythe and Otay Mesa are limited at times due to higher transportation cost from the San Juan and Permian supply basins to these receipt points.**
- **To maintain system reliability the SoCalGas System Operator is required to have the Operational Hub purchase gas for delivery at either Blythe or Otay Mesa.**
- **Net cost for these transactions totaled $ 3.8 million in 2011.**
- **Possible solution:**
  - **Build additional north-south pipeline capacity to move more gas from the SoCalGas Northern System to the Southern System**

Southern California Gas Company's Southern System Constraints, Cont.

- **Of the 2,150 MW San Onofre Nuclear Generating Station (SONGS), Units 2 and 3 remain out of service.**
- **Pending in-service dates are not available for either unit. Resumption of operations is subject to Nuclear Regulatory Commission (NRC) approval.**
- **SoCalGas is expecting higher natural gas demand on the Southern System over the summer as long as the SONGS outage continues in the range of 100 MMcfd to 200 MMcfd.**
- **A corresponding increase in reliability purchases by the SoCalGas Operational Hub is expected unless customers increase deliveries to Southern System receipt points at Blythe and Otay Mesa.**

Southern California Gas Company's Southern System Constraints, Cont.

- **Huntington Beach Units 3 and 4, natural gas-fired units with total capacity of 440 megawatts, are back in service and available for dispatch which should provide some relief from the SONGS closure.**

- **The ISO is also working with utilities to complete two transmission projects and plans to utilize more conservation efforts as summer demand climbs.**

- **It is still expected that the Sunrise Powerlink electric transmission line, which will bring renewable energy from Imperial County to San Diego, will be in service in late June.**

- **The new transmission line will also play an important role in serving San Diego customers this summer when resources could be tight.**

CORE CUSTOMER BILL CALCULATION ($):	Estimated Cal. Month Hdd	Estimated Cal. Month Hdd	Estimated Cal. Month Hdd	Estimated Cal. Month Hdd	Estimated Cal. Month Hdd
Heating Degree Days = Average Daily Temp. below 65° Fahrenheit	13.6	2.1	1.7	4.3	37.2
Month	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
Days in the Month	30	31	31	30	30
Estimated Core Monthly Price Based on NYMEX Clearport at the CA Border (cents/therm) :	22.890	24.990	26.100	25.940	25.980
Customer Charge per day (cents/day)	16.4380	16.4380	16.4380	16.4380	16.4380
Baseline Transportation Rate (Schedule GR) cents/therm	33.9700	33.9700	33.9700	33.9700	33.9700
Non-Baseline Transportation Rate (Schedule GR) cents/therm	59.9700	59.9700	59.9700	59.9700	59.9700
PPS (CARE) cents/therm	8.2310	8.2310	8.2310	8.2310	8.2310
Tier I (Therms)	14.190	14.663	14.663	14.190	14.190
Tier II (Therms)	8.127	6.394	6.327	6.568	12.083
Average Consumption (Therms) :	22.3	21.1	21.0	20.8	26.3
Customer Charge($)	4.9314	5.0958	5.0958	4.9314	4.9314
Tier I ($)	8.0684	8.6453	8.8081	8.5012	8.5069
Tier II ($)	6.7340	5.4323	5.4456	5.6424	10.3855
PPS (CARE)($)	1.8369	1.7332	1.7277	1.7086	2.1625
TOTAL BILL	$21.57	$20.91	$21.08	$20.78	$25.99